



Role of the Dual Stage Model of Creative Cognition for Evaluating Creativity in English Language Classrooms at the Primary Level

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Abstract

This study is an attempt to measure creativity in English-language classrooms through the dual-stage model of creative cognition. Creativity may be assessed in Pakistani English-language classrooms because it is usually hindered in schools at the primary level. The model used was the dual-stage model of creative cognition, i.e., generative and non-generative stages. The outline of the model proposes that individuals may benefit from both stages, but at individual stages, they benefit from one stage rather than both stages. Two abilities were tested. There is the ability to think logically and analytically, as well as make associations. The tests used were the Remote Associate Test (RAT) and the Torrance Test of Creative Thinking (TTCT verbal part). The RAT test consisted of 30 items. A few items were selected from an online source, and a few were made manually. The TTCT test consists of nine statements to get feedback about teaching and learning practices. The tests were processed through statistical measures. The students were enrolled in a private school in Faisalabad. The sample of the study was class 7th and 8th of Al-Faisal Grammar High School, Faisalabad. The results proved the hypothesis correct: the model suggests that students would get more benefit from one stage than from two.

Keywords: evaluating, cognition, creativity, Dual Stage model

1. Introduction

Creativity may be incorporated into language teaching, as it involves long-term learning without difficulty. So, establish new structures and ideas in your own way. It makes learning so much fun and thoughtful. Creativity develops student interest. Students are so bored with the same traditional teaching methods and approaches to learning and teaching.

There is an urgent need to quantify creativity. It informs teachers about the use of various activities and teaching techniques in the classroom. An assessment of creativity would allow students to become aware of their weak points and make improvements in those areas. There are numerous methods for evaluating creativity in the classroom.

Barbot (2020) talked about evaluating creativity in the classroom and emphasised that evaluating creativity should be done from multiple perspectives because this helps cover all the issues of creative potential. The tools would contextualise the needs of the students. The findings were further discussed in terms of the benefits of evaluating creativity and methods of promotion.

Fürst and Grin (2018) developed a comprehensive method for evaluating daily creativity. Questionnaires, creative activities, and peer-rating of creativity. The scoring method employs both traditional and innovative guides. The scoring method performed well both theoretically and empirically.

Rafner (2020) devised some progressive evaluation games and crowdsourcing strategies. Digital video games have been advised as an appropriate approach, and they proved to be an appropriate tool for evaluating creativity in school rooms. Falconer, Cropley, and Dollard (2018) investigated fourth-grade students' creativity. The study pointed out a short intervention path that could help foster creativity in fourth graders.

Evaluation of inventiveness is a disregarded field in Pakistan. The execution of students' needs ought to be observed at each organisation to check the execution of the inventive capacities of learners. The instructors are able to know about the potential and dangers of the learners within the classroom. According to Kadriu, Ceka, and Bajrami (2016), instructors play a critical role in advancing and empowering imagination in learners through imaginative teaching.

There are various methods and procedures that can be utilised to develop advanced students' basic aptitudes. Abosalem (2016) examined different high-order aptitude evaluation techniques. The lack of evaluation resources was also a reason for the need for higher-order thinking about learner capacities. Merta Dhewa (2017) argues that Indonesian students' capacity to think inventively is greater. The reason for this is that measuring rebellious and understanding high-order considering abilities are inaccessible.

Insnai et al. (2019) outlined open-ended math questions to survey students' high-level aptitudes. The exam is planned with 15 questions based on explanatory, assessment, and imaginative issue-fathoming aptitudes. The results of the preceding tests concluded that the test was designed to be ideal for measuring high-level abilities in students.

The evaluation of imaginative capacity in totally different areas shows that students' considering capacity is still low since instructors are not mindful of the importance of assessing higher-order considering capacity. Typically, this is a dismissed region of instruction. During their elementary-level lessons, most teachers go over the data and start asking students questions. Hence, the inventive cognitive capacity of learners cannot be advanced. The gap identified from diverse thinking for this inquiry is a lack of imaginative mindfulness in both students and teachers to level imagination in the language classroom.



1.1 Research Questions

The research questions for research are:

1. How dual stage model of creativity can be used effectively for determining creativity in Pakistani schools?
2. Does the model have any role in improving creativity in English language classrooms?

1.2 Objective of the Study

The objective of the research was to check the role of the dual-stage model of creative cognition in evaluating creativity in English language classrooms at the primary level. The dual-stage model of creative cognition was employed in this research. The two stages of this model were tested through the "Remote Association Test" and "Torrance Test" of creative thinking. These two thinking abilities were the stages of the "dual stage model of creative cognition." The dual-stage model of creativity was the underlying exemplar for research.

The sample for the research was class 7 and 8 students at Al Faisal Grammar High School. Convenient sampling was chosen. The test selected was the RAT for evaluating the associational thinking of students. The TTCT verbal part was used to assess students' analytical thinking abilities. Results proved that students' performance was notable in associational ability rather than critical thinking ability, which is in alignment with the Associated Stream Theory given by Mednick, who suggested that students' ability to make associations depends upon three processes, i.e., serendipity, similarity, and meditation. Serendipity is the unintended association of ideas. Second is similarity, in which students are able to make associations grounded in some similarity. The final one is meditation, which students associate with three options as designed in the RAT test.

As far as critical thinking is concerned, the intelligence threshold theory by Torrance recommends that students with higher intelligence do not necessarily have higher imaginative abilities. This study proposes that performance in academics does not guarantee the creativeness of students.

2. Review of Literature

Long (2022) has recommended ways for testing inventiveness whose centre is on cognitive and non-cognitive viewpoints. It includes inventive tests, self-assessment surveys, dissimilar thinking tests, and subjective method conclusions. Hanninen et al. (2020) tried to determine the impact of diversion-based instruction based on inventiveness. Learners were separated into two bunches: an exploratory and a control bunch. The control group was allowed to participate without preparation, whereas the test group received imaginative instruction on gamified preparation. It concluded that exploratory gathering had created self-efficacy in the imagination instead of control gathering. Rubenstein LD (2022) investigated the relationship between fundamental learners' scholarly execution and creative level. Tests have been used to demonstrate the significance of the relationship between the Torrance test of imaginative considering and generalised added substance models. It also appeared that as learners' creative energy control improved.

Beghetto (2020) has gotten to the appraisal that underpins classroom imagination. It was suggested that novel approaches to creating an objective, empowering environment and understudy associations in appraisal methods can also help in the creation of creativity. It has been proposed that the TTCT, the RAT, and the Alternative Uses Test (ALT) were overwhelmingly utilised for assessing imagination among the learners. There is also a significant difference in the composition and execution of English between moment dialect learners and local dialect learners. Ozkan and Undutopsakal (2021) determined the viability of STEAM instruction based on middle school students' inventiveness. Distinctive STEAM-based exercises were created and taught to the learners. The Torrance test of inventive thinking and its selected subparts were used, and the results were analysed using the SPSS computer program.

Mullen (2020) investigated the impact of instructors' conceptions and responsibilities of imagination, as well as the conflicts associated with responsibility conceptions of inventiveness. The tests utilised were interviews and 4-Cs-based researchers' education on space action and activity intervention protocols. Guo (2019) tried the unwavering quality of online inventiveness tests and the paper-pencil test. Online tests were considered because they have two components: verbal and drawing. The members were divided into three categories: online fundamental, online progressed, and paper and pencil tests. It can be concluded that no noteworthy contrast was found between testing procedures. It changed in terms of sex. Males were more open to previously unseen thoughts than females. Gamanik, Sanajaya, and Rusyati (2019) assessed the concept understanding and inventive capacity of learners through part-play action. Part play appeared to have a positive impact on concept authority and inventive capacity.

Careerra et al. (2019) investigated the impact of 3D CAD mode on making progress in terms of capacity among design learners. According to the findings of the study, inventive thinking is an important concept in maintaining sustainability. The strategies were pre- and post-surveys. It was also discovered that Stella 3D Workshop is very accommodating in advancing imaginative execution among building students. Luchiarri, Sala, and Vanutelli (2019) investigated the impact of cognitive capacity on geographical learners' ability to move forward with inventiveness. The tests used were child imagination tests and group inventiveness evaluations. According to the findings of the study, preparation appears to be very beneficial in terms of capacity among essential learners in Italian schools.

Liao et al. (2018) determined the effectiveness of the inventive outline guidelines method in refining imagination among geography students. The testing strategies utilised were students' input for subjective and quantitative filling in quizzes, term exams, and a recently developed and re-examined scale for measuring inventiveness among essential learners. Nurhassana and Simare-Mare (2020) did an investigation of children's inventiveness and advancement in the Paud Darul Fathonah Medan Marelan Sub-District. He concluded that assessment may well be done through perceptions, interviews, accounts, work, and different sorts of communication. Shively, Sith, and Rubenstein (2018) investigated the significance of assessing learners' imagination. She contended that assessing entailed taking into account learners' abilities to some extent, so that the instructor appeared to pass on the abilities of brilliant scholars and imaginative personalities.

The impact of reading and writing activities on the imaginative ability and academic performance of the learners results in academic excellence and divergent thinking. Kim (2011) demonstrated the significance of the Torrance test of creativity and whether it remains a reliable and valid test for the twenty-first century. Literature has shown it is the most cited test used for evaluating the imaginative level of students. It is also thought to be a superior test to the IQ test. Therefore, the research concluded that TTCT could be best used for evaluating the creative abilities of the learners.

Some studies have found that IQ has nothing to do with creativity; however, there is a strong correlation between the two. test is believed to be the most valuable test for testing creativity of all the tests. It is also said that this is the test used for discovering talented students. At last, strengths, weaknesses, and further implications were discussed.

3. Methods and Materials

The design of the research was quantitative as it involved statistical procedures. The students were enrolled in a private school in Faisalabad. The sample for the study was from classes 7 and 8 at Al Faisal Grammar High School, Faisalabad. For data collection, a convenient sampling technique was chosen. The tests used were the RAT and TTCT tests. The RAT test consisted of 30 items. Some items

were selected online, and some were made according to the needs of the study. The 30 items were divided into three sections: vocabulary, affixes, and expressions. The second test (TTCT) consisted of nine statements. Both tests were analysed through statistical procedures. The frequencies of the RAT test were calculated. The scores from TTCT were converted into graphs.

Table 1. Frequencies of RAT Test across Gender

Classes	Gender		Total sample students
	Boys	Girls	
Class 7	50	50	100
Class 8	50	50	100
Grand Total	100	100	200

The language teachers were guided regarding the tests. Furthermore, students were also directed by the teachers about the solvability of the tests. A time frame was observed. After 45 minutes, the first test, i.e., the remote association test, was collected from the students. However, the second TTCT verbal part (written version) was distributed among the students. Again, after 45 minutes, a second test was collected from the students. The data was manually recorded, as were the responses of each student. The results were then converted into statistical scores.

Similarly, the scores for TTCT verbal were recorded into three indices: fluency, flexibility, and originality. Originality was not observed in personal suggestions. The manual result was analysed through a graph of results. The results were analysed with respect to gender and class. The scores of the second test, the RAT, were analysed by calculating each student response.

4. Results and Data analysis

The results of the study were presented below.

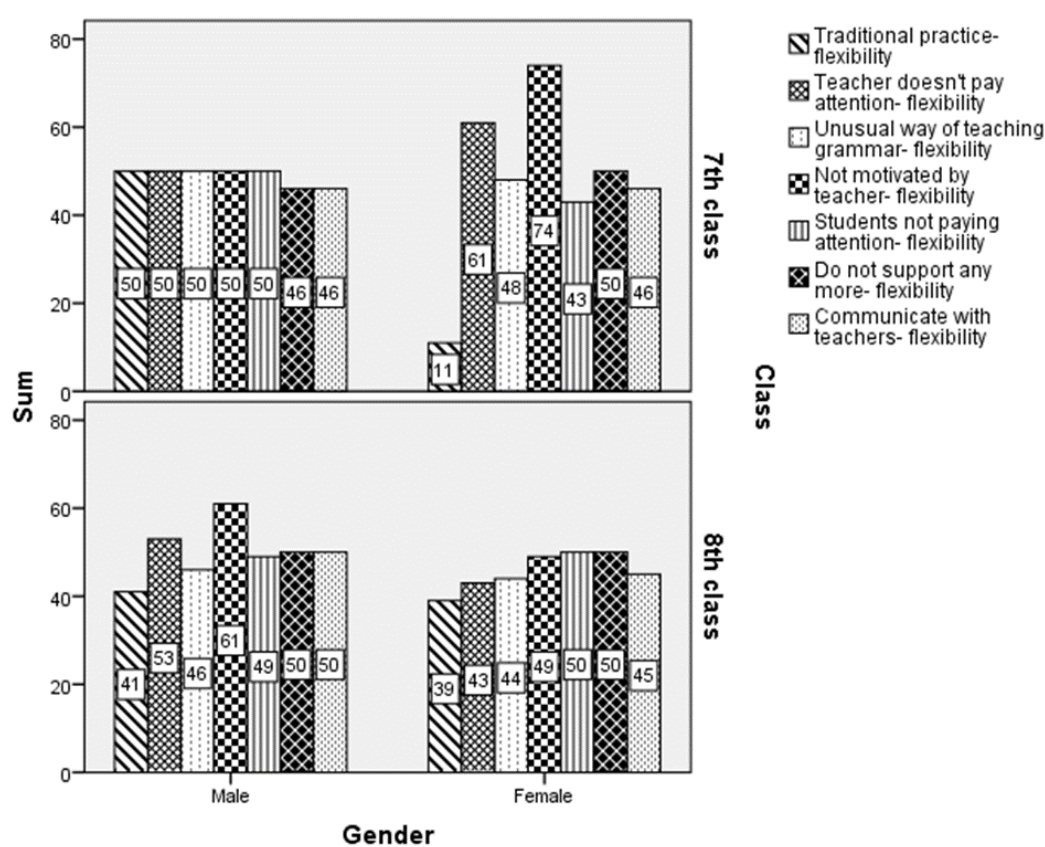


Figure 1: Overall flexibility scores of class 7th and class 8th

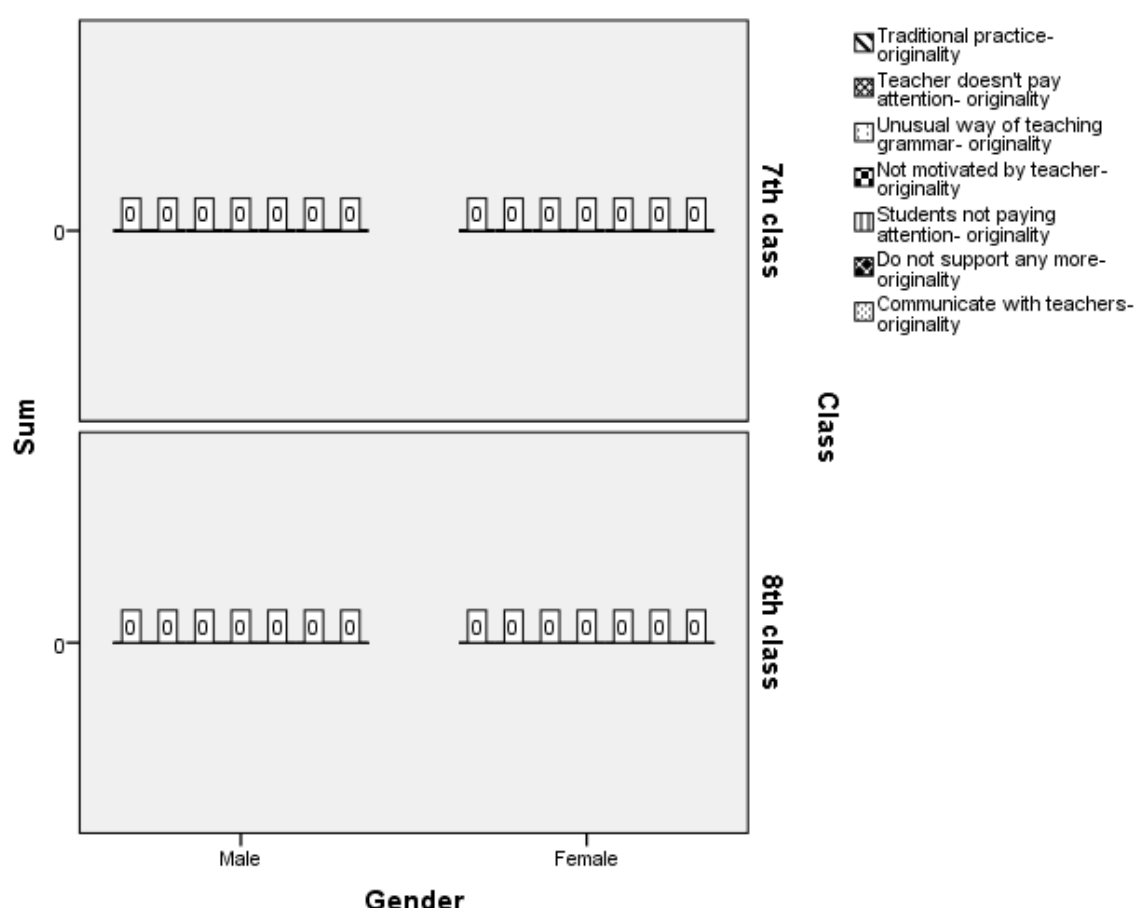


Figure 2: Overall originality scores of class 7th and class 8th

Figure 2 showed the originality scores of both classes along both of genders.

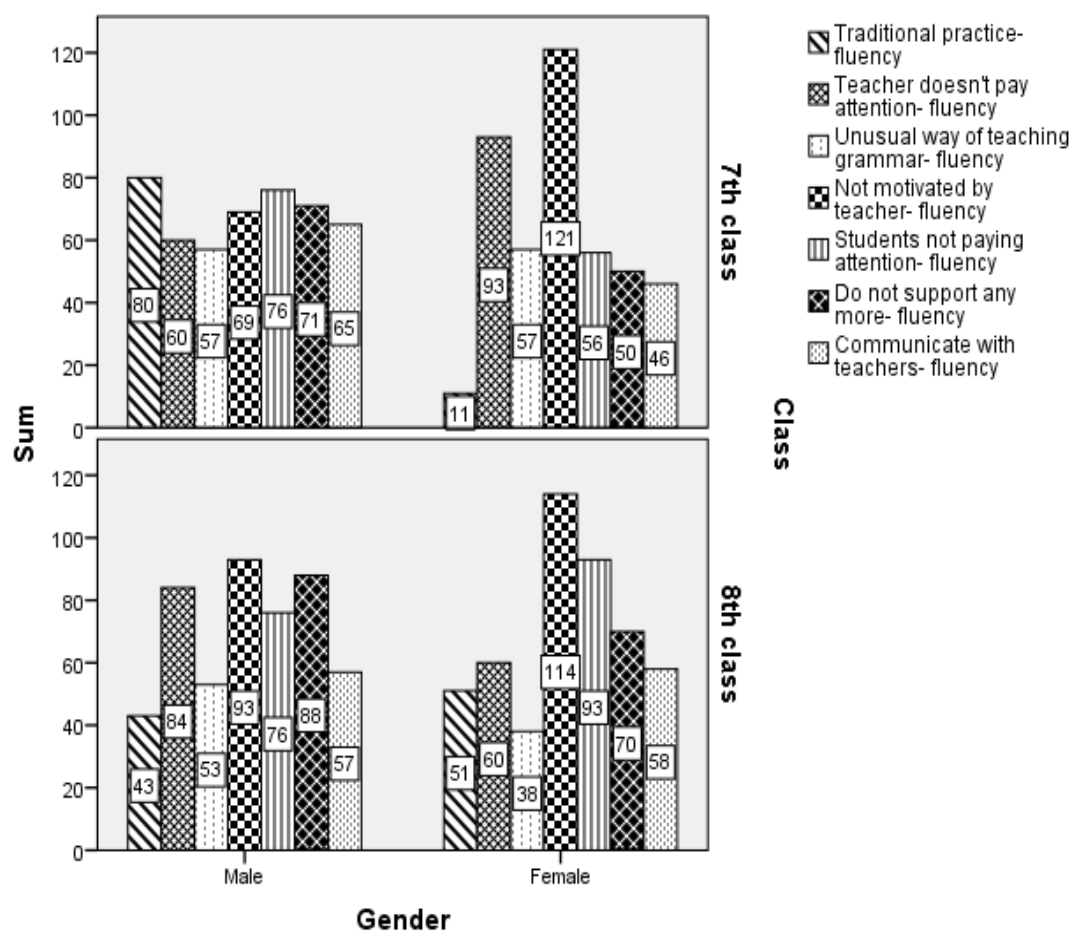


Figure 3: Analyses TTCT Verbal Test Fluency scores

Figure 3 showed the overall scores of flexibility scores of class 7th and class 8th.

Table 2. Remote Association Test analysis

RAT Test Results			Percentage
RAT Test Options Correct answer			
1	Option 1	Teacher	92%
2	Option 2	Classroom	86%
3	Option3	Sky	91%
4	Option4	Tree	95%
5	Option5	Book	78%
6	Option6	Cake	96%
7	Option7	Honey	69%
8	Option8	Water	83%
9	Option9	Beach	54%
10	Option10	Family	70%
11	Option11	In	52%
12	Option12	Able	78%
13	Option13	Ship	80%
14	Option14	Less	80%
15	Option15	Ly	83%
16	Option16	Over	88%
17	Option17	Uni	76%
18	Option18	Trans	59%
19	Option19	Un	86%
20	Option20	Depressed	42%
21	Option21	Angry	69%
22	Option22	Afraid	64%
23	Option23	Confused	52%
24	Option24	Active	44%
25	Option25	Love	36%
26	Option26	happy	60%
27	Option27	Creative	45%
28	Option28	Alone	43%
29	Option29	Amazed	28%

It appeared that students' execution was striking in an associational capacity instead of a basic considering capacity, which is in the arrangement of the Related Stream Hypothesis given by Mednick. He recommended that students' capacity for making affiliations depends upon three forms, i.e., good fortune, similitude, and contemplation. Luck is the coincidental affiliation of thoughts. moment of similitude, in which students are able to create affiliations based on a similitude. The final one is reflection; the affiliation learners make with three choices is fair as planned in the rodent test. In terms of fundamental thinking, Torrance's insights edge hypothesis proposes that learners with higher insights do not necessarily have higher inventive capacity. This idea implies that students' performance in school does not guarantee their inventiveness.

The ultimate address is given in Joseph Kasof's 1995 Attribution Hypothesis. It concludes that inventiveness is a social wonder. On the off chance that learners are given a particularly strong social environment and time, it advances imagination in learning. The research concluded that this method may be utilised in assessing the imagination of the learners in the dialect classroom. When considering the aptitudes of students, the execution of learners is significant in associational ability as opposed to basic. The reason for this is that students

discover fewer opportunities within the association of thinking forms. If students are involved in considering forms more than once, they will develop creative capacity and be able to perform novel ideas.

5. Conclusion and Implications

The research concluded that creativity needs to be implemented in Pakistani classrooms at the primary level. Creativity brings out new learners and substitutes for boredom. It has a number of implications. It will offer assistance to instructors in planning exercises for learners to develop inventiveness and abilities. It makes a difference for learners to progress in their thinking capacities. It'll make mindfulness part of the curriculum through the incorporation of more imaginative substance into the educational modules. It will help instructors understand mindfulness in order to foster creative environments in the classroom. The school administration may be able to set aside time for experimentation. The instructors may be able to evaluate the inventiveness of their understudies and may take advance measures to progress their inventive capacities.

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